

Research Role Profile

Addendum to Role Profile

Job Title:

Research Fellow (1A)

Job Summary and Purpose:

This information sheet should be read in conjunction with the accompanying generic Research RA1A Role Profile and will be used for shortlisting processes. More specifically the post holder will be expected to:

The School of Chemistry and Chemical Engineering is looking to recruit a full time Postdoctoral Research Fellow for a 3-year EPSRC-funded project. The project is led by Lancaster University who are looking at developing new Terahertz-based methods for probing the states of water in ion-exchange membranes; the Lancaster team will also conduct solid-state NMR experiments.

The successful candidate will be joining a small and friendly research team led by Prof John Varcoe and will be supported by a team of specialist technicians. The University of Surrey team's role is to synthesise and characterise a wide range of radiation-grafted ion-exchange membranes with a diversity of water contents and states that will then be supplied to Lancaster for testing.

A public summary of the grant can be found at:

<https://gow.epsrc.ukri.org/NGBOViewGrant.aspx?GrantRef=EP/Z534237/1>

Main Responsibilities/Activities

This is an on-site laboratory-based role, and the bulk of the work will be conducted in the school's synthesis and characterisation laboratories, including a brand-new energy research lab.

The primary research activities include: membrane synthesis; measuring ion-exchange capacities using auto-titration techniques; Raman microscopic mapping; and measuring physical properties such as ionic conductivities and water uptakes.

The candidate will be expected to liaise with external partners including Lancaster University, commercial project partners (membrane suppliers), and other academic researchers who can conduct advanced characterisations such as X-ray, electron, and neutron scattering and imaging experiments.

The candidate must be willing to help supervise undergraduate final year project students and PhD students on related projects, as well as demonstrating on an undergraduate practical involving the group's auto-titrators in Oct/Nov of each year (1 day per week for a 3 week period).

Person Specification

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The post holder must have:

1. A PhD or EngD involving Polymer Chemistry that involved several years of polymer synthesis and characterisation (including publications in this field); candidates who have submitted their thesis and are awaiting for a viva will also be considered.
2. Experience of Raman microscopy.
3. Experience of preparing hazardous substances risk assessments.
4. A track record of engagement with both academic and non-academic stakeholders.
5. Awareness of innovation processes such as intellectual property protection and patenting.

Applicants are expected to be self-reliant and have a track record of: safe laboratory working, problem solving, data analysis, and statistical skills.

Due to the timing of activities and the need to quickly supply materials to Lancaster University, the candidate must be able to commence laboratory work at the start of January 2025; direct experience of radiation-grafting is particularly sought to minimise technical training delays to membrane production and supply.

Relationships and Contacts

The post holder will be line managed by Prof John Varcoe (Surrey lead investigator) and will be expected to work with other team members and students allocated to the group. The post holder is also required to be fully engaged with all relevant consortium members and industrial collaborators.